



## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[RTID 0648-XC708]

#### **Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of issuance of Letter of Authorization.

**SUMMARY:** In accordance with the Marine Mammal Protection Act (MMPA), as amended, its implementing regulations, and NMFS' MMPA Regulations for Taking Marine Mammals Incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico, notification is hereby given that a Letter of Authorization (LOA) has been issued to CGG Inc. (CGG) for the take of marine mammals incidental to geophysical survey activity in the Gulf of Mexico.

**DATES:** The LOA is effective from February 8, 2023 through November 30, 2023.

**ADDRESSES:** The LOA, LOA request, and supporting documentation are available online at: [www.fisheries.noaa.gov/action/incidental-take-authorization-oil-and-gas-industry-geophysical-survey-activity-gulf-mexico](https://www.fisheries.noaa.gov/action/incidental-take-authorization-oil-and-gas-industry-geophysical-survey-activity-gulf-mexico). In case of problems accessing these documents, please call the contact listed below (see **FOR FURTHER INFORMATION CONTACT**).

**FOR FURTHER INFORMATION CONTACT:** Rachel Wachtendonk, Office of Protected Resources, NMFS, (301) 427-8401.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined “negligible impact” in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

On January 19, 2021, we issued a final rule with regulations to govern the unintentional taking of marine mammals incidental to geophysical survey activities conducted by oil and gas industry operators, and those persons authorized to conduct activities on their behalf (collectively “industry operators”), in Federal waters of the U.S. Gulf of Mexico (GOM) over the course of 5 years (86 FR 5322, January 19, 2021). The

rule was based on our findings that the total taking from the specified activities over the 5-year period will have a negligible impact on the affected species or stock(s) of marine mammals and will not have an unmitigable adverse impact on the availability of those species or stocks for subsistence uses. The rule became effective on April 19, 2021.

Our regulations at 50 CFR 217.180 *et seq.* allow for the issuance of LOAs to industry operators for the incidental take of marine mammals during geophysical survey activities and prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat (often referred to as mitigation), as well as requirements pertaining to the monitoring and reporting of such taking. Under 50 CFR 217.186(e), issuance of an LOA shall be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations and a determination that the amount of take authorized under the LOA is of no more than small numbers.

### **Summary of Request and Analysis**

CGG plans to conduct a seismic survey with a proprietary test acquisition using an airgun as the sound source, covering portions of approximately 21 lease blocks. The airgun array consists of 9 elements, with a total volume of 1,650 cubic inches (in<sup>3</sup>). Please see CGG's application for additional detail.

Consistent with the preamble to the final rule, the survey effort proposed by CGG in its LOA request was used to develop LOA-specific take estimates based on the acoustic exposure modeling results described in the preamble (86 FR 5322, 5398, January 19, 2021). In order to generate the appropriate take number for authorization, the following information was considered: (1) survey type; (2) location (by modeling zone<sup>1</sup>);

---

<sup>1</sup> For purposes of acoustic exposure modeling, the GOM was divided into seven zones. Zone 1 is not included in the geographic scope of the rule.

(3) number of days; and (4) season.<sup>2</sup> The acoustic exposure modeling performed in support of the rule provides 24-hour exposure estimates for each species, specific to each modeled survey type in each zone and season.

The survey proposed by CGG was not included in the modeled survey types, however, use of existing proxies (*i.e.*, 2D, 3D NAZ, 3D WAZ, Coil) is generally conservative for use in evaluation of survey effort. Summary descriptions of these modeled survey geometries are available in the preamble to the proposed rule (83 FR 29212, 29220, June 22, 2018). Coil was selected as the best available proxy survey type because the spatial coverage of the planned survey is most similar to that associated with the coil survey pattern.

The coil survey pattern in the model was assumed to cover approximately 144 kilometers squared ( $\text{km}^2$ ) per day (compared with approximately 795  $\text{km}^2$ , 199  $\text{km}^2$ , and 845  $\text{km}^2$  per day for the 2D, 3D NAZ, and 3D WAZ survey patterns, respectively). Among the different parameters of the modeled survey patterns (*e.g.*, area covered, line spacing, number of sources, shot interval, total simulated pulses), NMFS considers area covered per day to be most influential on daily modeled exposures exceeding Level B harassment criteria. Although CGG is not proposing to perform a survey using the coil geometry, its planned survey is expected to cover approximately 4  $\text{km}^2$  per day, meaning that the coil proxy is most representative of the effort planned by CGG in terms of predicted Level B harassment exposures.

In addition, all available acoustic exposure modeling results assume use of a 72 element, 8,000  $\text{in}^3$  array. Thus, take numbers authorized through the LOA are considered conservative due to differences in both the airgun array (9 elements, 1,650  $\text{in}^3$ ) and the daily survey area planned by CGG (4  $\text{km}^2$ ), as compared to those modeled for the rule.

---

<sup>2</sup> For purposes of acoustic exposure modeling, seasons include Winter (December-March) and Summer (April-November).

The survey is planned to occur for 10 days in Zone 6, with airguns being used on 3 of the days. The season is defined as winter, however the period of effectiveness for the LOA covers both seasons, meaning that the survey could take place in any season. Therefore, the take estimates for each species are based on the season that has the greater value for the species (*i.e.*, winter or summer).

For some species, take estimates based solely on the modeling yielded results that are not realistically likely to occur when considered in light of other relevant information available during the rulemaking process regarding marine mammal occurrence in the GOM. Thus, although the modeling conducted for the rule is a natural starting point for estimating take, our rule acknowledged that other information could be considered (see, *e.g.*, 86 FR 5322, 5442 (January 19, 2021), discussing the need to provide flexibility and make efficient use of previous public and agency review of other information and identifying that additional public review is not necessary unless the model or inputs used differ substantively from those that were previously reviewed by NMFS and the public). For this survey, NMFS has other relevant information reviewed during the rulemaking that indicates use of the acoustic exposure modeling to generate a take estimate for certain marine mammal species produces results inconsistent with what is known regarding their occurrence in the GOM. Accordingly, we have adjusted the calculated take estimates for those species as described below.

NMFS' final rule described a "core habitat area" for Rice's whales (formerly known as GOM Bryde's whales)<sup>3</sup> located in the northeastern GOM in waters between 100-400 m depth along the continental shelf break (Rosel *et al.*, 2016). However, whaling records suggest that Rice's whales historically had a broader distribution within similar habitat parameters throughout the GOM (Reeves *et al.*, 2011; Rosel and Wilcox, 2014).

---

<sup>3</sup> The final rule refers to the GOM Bryde's whale (*Balaenoptera edeni*). These whales were subsequently described as a new species, Rice's whale (*Balaenoptera ricei*) (Rosel *et al.*, 2021).

In addition, habitat-based density modeling identified similar habitat (*i.e.*, approximately 100-400 m water depths along the continental shelf break) as being potential Rice's whale habitat (Roberts *et al.*, 2016), although the core habitat area contained approximately 92 percent of the predicted abundance of Rice's whales. See discussion provided at, *e.g.*, 83 FR 29228, 83 FR 29280 (June 22, 2018); 86 FR 5418 (January 19, 2021).

Although Rice's whales may occur outside of the core habitat area, we expect that any such occurrence would be limited to the narrow band of suitable habitat described above (*i.e.*, 100-400 m) and that, based on the few available records, these occurrences would be rare. CCG's planned activities will occur in water depths of approximately 300-1,000 m in the central GOM. Although there is limited overlap of the survey depths with potential Rice's whale habitat, due to the brief survey duration, as well as a much smaller airgun array and daily survey area planned compared to the model used to calculate possible take, the potential for exposure of this rare species is unlikely. Thus, although use of the acoustic exposure modeling produces an estimate of one Rice's whale exposure, NMFS does not expect there to be the reasonable potential for take of Rice's whale in association with this survey and, accordingly, does not authorize take of Rice's whale through the LOA.

Killer whales are the most rarely encountered species in the GOM, typically in deep waters of the central GOM (Roberts *et al.*, 2015; Maze-Foley and Mullin, 2006). The approach used in the acoustic exposure modeling, in which seven modeling zones were defined over the U.S. GOM, necessarily averages fine-scale information about marine mammal distribution over the large area of each modeling zone. NMFS has determined that the approach results in unrealistic projections regarding the likelihood of encountering killer whales.

As discussed in the final rule, the density models produced by Roberts *et al.* (2016) provide the best available scientific information regarding predicted density patterns of cetaceans in the U.S. GOM. The predictions represent the output of models derived from multi-year observations and associated environmental parameters that incorporate corrections for detection bias. However, in the case of killer whales, the model is informed by few data, as indicated by the coefficient of variation associated with the abundance predicted by the model (0.41, the second-highest of any GOM species model; Roberts *et al.*, 2016). The model's authors noted the expected non-uniform distribution of this rarely-encountered species (as discussed above) and expressed that, due to the limited data available to inform the model, it "should be viewed cautiously" (Roberts *et al.*, 2015).

NOAA surveys in the GOM from 1992-2009 reported only 16 sightings of killer whales, with an additional three encounters during more recent survey effort from 2017-18 (Waring *et al.*, 2013; [www.boem.gov/gommapps](http://www.boem.gov/gommapps)). Two other species were also observed on fewer than 20 occasions during the 1992-2009 NOAA surveys (Fraser's dolphin and false killer whale<sup>4</sup>). However, observational data collected by protected species observers (PSOs) on industry geophysical survey vessels from 2002-2015 distinguish the killer whale in terms of rarity. During this period, killer whales were encountered on only 10 occasions, whereas the next most rarely encountered species (Fraser's dolphin) was recorded on 69 occasions (Barkaszi and Kelly, 2019). The false killer whale and pygmy killer whale were the next most rarely encountered species, with 110 records each. The killer whale was the species with the lowest detection frequency during each period over which PSO data were synthesized (2002-2008 and 2009-2015).

---

<sup>4</sup> However, note that these species have been observed over a greater range of water depths in the GOM than have killer whales.

This information qualitatively informed our rulemaking process, as discussed at 86 FR 5322, 5334 (January 19, 2021), and similarly informs our analysis here.

The rarity of encounter during seismic surveys is not likely to be the product of high bias on the probability of detection. Unlike certain cryptic species with high detection bias, such as *Kogia* spp. or beaked whales, or deep-diving species with high availability bias, such as beaked whales or sperm whales, killer whales are typically available for detection when present and are easily observed. Roberts *et al.* (2015) stated that availability is not a major factor affecting detectability of killer whales from shipboard surveys, as they are not a particularly long-diving species. Baird *et al.* (2005) reported that mean dive durations for 41 fish-eating killer whales for dives greater than or equal to 1 minute in duration was 2.3-2.4 minutes, and Hooker *et al.* (2012) reported that killer whales spent 78 percent of their time at depths between 0-10 m. Similarly, Kvadsheim *et al.* (2012) reported data from a study of four killer whales, noting that the whales performed 20 times as many dives 1-30 m in depth than to deeper waters, with an average depth during those most common dives of approximately 3 m.

In summary, killer whales are the most rarely encountered species in the GOM and typically occur only in particularly deep water (>700 m). This survey would take place, in part, in deep waters that would overlap with the depths that the GOM killer whales typically occur. However, due to the short duration of the survey and the relatively small geographic area it will cover in relation to suitable deep water habitat for killer whales, it is unlikely that killer whales would be encountered. While this information is reflected through the density model informing the acoustic exposure modeling results, there is relatively high uncertainty associated with the model for this species, and the acoustic exposure modeling applies mean distribution data over areas where the species is in fact less likely to occur. NMFS' determination in reflection of the data discussed above, which informed the final rule, is that use of the generic acoustic



exposure modeling results for killer whales will generally result in estimated take numbers that are inconsistent with the assumptions made in the rule regarding expected killer whale take (86 FR 5322, 5403, January 19, 2021). In this case, use of the acoustic exposure modeling produces an estimate of one killer whale exposure. Given the foregoing, it is unlikely that even one killer whale would be encountered during the 3-day seismic portion of the survey, and accordingly no take of killer whales is authorized through this LOA.

Based on the results of our analysis, NMFS has determined that the level of taking expected for this survey and authorized through the LOA is consistent with the findings made for the total taking allowable under the regulations. See Table 1 in this notice and Table 9 of the rule (86 FR 5322, January 19, 2021).

#### **Small Numbers Determination**

Under the GOM rule, NMFS may not authorize incidental take of marine mammals in an LOA if it will exceed “small numbers.” In short, when an acceptable estimate of the individual marine mammals taken is available, if the estimated number of individual animals taken is up to, but not greater than, one-third of the best available abundance estimate, NMFS will determine that the numbers of marine mammals taken of a species or stock are small. For more information please see NMFS’ discussion of the MMPA’s small numbers requirement provided in the final rule (86 FR 5322, 5438, January 19, 2021).

The take numbers for authorization, which are determined as described above, are used by NMFS in making the necessary small numbers determinations, through comparison with the best available abundance estimates (see discussion at 86 FR 5322, 5391, January 19, 2021). For this comparison, NMFS’ approach is to use the maximum theoretical population, determined through review of current stock assessment reports (SAR; [www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-](http://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-)

*stock-assessments*) and model-predicted abundance information

(<https://seamap.env.duke.edu/models/Duke/GOM/>). For the latter, for taxa where a density surface model could be produced, we use the maximum mean seasonal (*i.e.*, 3-month) abundance prediction for purposes of comparison as a precautionary smoothing of month-to-month fluctuations and in consideration of a corresponding lack of data in the literature regarding seasonal distribution of marine mammals in the GOM.

Information supporting the small numbers determinations is provided in Table 1.

**Table 1. Take Analysis**

Species	Authorized take <sup>1</sup>	Abundance <sup>2</sup>	Percent abundance
Rice's whale	0	51	n/a
Sperm whale	72	2,207	3.28
<i>Kogia</i> spp.	16 <sup>3</sup>	4,373	0.37
Beaked whales	273	3,768	7.23
Rough-toothed dolphin	52	4,853	1.06
Bottlenose dolphin	152	176,108	0.09
Clymene dolphin	197	11,895	1.66
Atlantic spotted dolphin	63	74,785	0.08
Pantropical spotted dolphin	456	102,361	0.45
Spinner dolphin	0 <sup>4</sup>	25,114	n/a
Striped dolphin	51	5,229	0.97
Fraser's dolphin	0 <sup>5</sup>	1,665	n/a
Risso's dolphin	38	3,764	1.00
Melon-headed whale	100 <sup>6</sup>	7,003	1.43
Pygmy killer whale	23	2,126	1.08
False killer whale	38	3,204	1.19
Killer whale	0	267	n/a
Short-finned pilot whale	57	1,981	1.90

<sup>1</sup>Scalar ratios were not applied in this case due to brief survey duration.

<sup>2</sup>Best abundance estimate. For most taxa, the best abundance estimate for purposes of comparison with take estimates is considered here to be the model-predicted abundance (Roberts *et al.*, 2016). For those taxa where a density surface model predicting abundance by month was produced, the maximum mean seasonal abundance was used. For those taxa where abundance is not predicted by month, only mean annual abundance is available. For the killer whale, the larger estimated SAR abundance estimate is used.

<sup>3</sup>Includes 1 takes by Level A harassment and 15 takes by Level B harassment.

<sup>4</sup>Modeled take of 11 decreased to 0. For spinner dolphin, use of the exposure modeling produces results that are smaller than the average GOM group size (*i.e.*, estimated exposure value of 11, relative to assumed average group size of 152) (Maze-Foley and Mullin, 2006). NMFS' typical practice is to increase exposure estimates to the assumed average group size for a species in order to ensure that, if the species is encountered, exposures will not exceed the authorized take number. However, given the very short survey duration and small estimated exposure value NMFS has determined that is unlikely the species would be encountered at all. As a result, in this case NMFS has not authorized take for this species.

<sup>5</sup>Modeled take of 18 decreased to 0. For Fraser's dolphin, use of the exposure modeling produces results that are smaller than the average GOM group size (*i.e.*, estimated exposure value of 18, relative to assumed average group size of 65) (Maze-Foley and Mullin, 2006). NMFS' typical practice is to increase exposure estimates to the assumed average group size for a species in order to ensure that, if the species is

encountered, exposures will not exceed the authorized take number. However, given the very short survey duration and small estimated exposure value NMFS has determined that is unlikely the species would be encountered at all. As a result, in this case NMFS has not authorized take for this species.

<sup>6</sup>Modeled take of 98 increased to account for potential encounter with group of average size (Maze-Foley and Mullin, 2006).

Based on the analysis contained herein of CGG's proposed survey activity described in its LOA application and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the affected species or stock sizes (*i.e.*, less than one-third of the best available abundance estimate) and therefore the taking is of no more than small numbers.

### **Authorization**

NMFS has determined that the level of taking for this LOA request is consistent with the findings made for the total taking allowable under the incidental take regulations and that the amount of take authorized under the LOA is of no more than small numbers. Accordingly, we have issued an LOA to CGG authorizing the take of marine mammals incidental to its geophysical survey activity, as described above.

**Dated:** February 8, 2023.

**Kimberly Damon-Randall,**

*Director, Office of Protected Resources,*

*National Marine Fisheries Service.*

[FR Doc. 2023-03037 Filed: 2/10/2023 8:45 am; Publication Date: 2/13/2023]